

# The New Biology

## Barbara McClintock and an Emerging Holistic Science

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During my quarter century of teaching biology, I searched for a renewal of the life sciences which were deeply mired in the Cartesian Newtonian mind set of Western culture, as they still are today. Each announcement of a "new biology" inspired me with the hope of finding an alternative to the sterile mechanistic world view we inherited from Isaac Newton and Rene Descartes.

Not until the 1980s did the "pearl of great price" loom on the horizon with the award of the 1983 Nobel Prize to Barbara McClintock for her revolutionary work in genetics. More than thirty years after publishing this phase of her research in corn cytogenetics and at 81 years of age this remarkable woman's long overlooked ideas became accessible to searchers like me. At the same time her life and work was made available in a superb in-depth biography by Evelyn Fox Keller. Its title, *A Feeling for the Organism*, indicates how personal McClintock's relationship with her corn plants was and how radical was her break with our current vested conceptualization of nature as a machine rather than as a living organism.

It seems appropriate to explore Dr. McClintock's innovative life work which I am calling a "new biology" as a Teilhard de Chardin Lecture. Her solitary years of pioneering a frontier of genetics and biology without recognition from the academic community is reminiscent of the isolation that Teilhard endured during his decades of paleontological field work when he was assigned to China. He was not permitted to publish his philosophical and theological writings by a conservative church hierarchy. Barbara published but was labeled "obscure" or "mad" by a scientific community locked in thought patterns that could not understand the subtlety of her research. The real reason I believe was an underlying, perhaps unconscious fear that her work would destroy the edifice of genetic dogma which dominates medical and biological science to this day. Doubtless the misunderstanding of their peers contributed to the mat-

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